ELSEVIER

ISA Transactions 37 (1998) 361–363

ISA TRANSACTIONS®

Cumulative contents of Volume 37

Volume 37, Number 1, 1998

1 Editorial viewpoint
3 Data smoothing using a least squares fit C++ class
R. Klopfenstein Jr.
21 Model reference based neural network adaptive controller
V. Kasparian and C. Batur
41 Process modeling and optimization using focused attention neural networks
J.D. Keeler, E. Hartman and S. Piché
53 Understanding the dynamic behavior of Kamyr digesters
L. Al-Awami and Y. Sidrak
65 On the design of piezoelectric sensors and actuators
R. Luck and E.I. Agba

Volume 37, Number 2, 1998

73 Editorial viewpoint
79 Advanced diagnostic methods in process control
E. Dummermuth
87 Quantifying the impact of partial stroke valve testing of safety instrumented systems
P. Gruhn, J. Pittman, S. Wiley and T. LeBlanc
95 Techniques for assigning a target safety integrity level
A.E. Summers
105 Determining the required safety integrity level for your process
L. Beckman
113 Correlation of the controller gain for linear quadratic control
A. Jutan
123 Relay-tuned finite spectrum assignment control of time delay processes
K.K. Tan, Q.-G. Wang and T.H. Lee

Published by Elsevier Science Ltd.

Volume 37, Number 3, 1998

133 Editorial viewpoint
135 Measurement and prediction of diesel engine exhaust emissions
S. Ouenou-Gamo, M. Ouladsine and A. Rachid
141 Hot-wire/film anemometry measurements in flows with heat transfer and signal correction
S.A. Sherif
147 Measuring the installed dead band of control valves
M.T. Coughran
155 Layer of protection analysis for determining safety integrity level
A.M. Dowell III
167 Fuzzy based variable step approaching digital control for plants with time delay
G. Li, K.M. Tsang and S.L. Ho
177 Adaptive delay compensated PID controller by phase margin design
K.M. Tsang, W.L. Lo and A.B. Rad
189 External reset feedback for generic model control
J. Ou, G. Narayanaswamy and R.R. Rhinehart
201 Design of PAM and PWM digital controllers for cascaded analog systems
L.S. Shieh, W.M. Wang and M.K. Appu Panicker
215 On-line optimization of a model IV fluid catalytic cracking unit
U.K. Chitnis and A.B. Corripio
227 A fuzzy logic based PI autotuner
R. Bandyopadhyay and D. Patranabis

Volume 37, Number 4, 1998

237 Editorial viewpoint
239 A self-organizing approach to the prediction and detection of tool wear
C.L. Jiaa and D.A. Dornfeld
257 Air velocity and flow measurement using a Pitot tube
R. Klopfenstein Jr.
265 Simplified, ideal or inverted decoupling?
E. Gagnon, A. Pomerleau and A. Desbiens
277 Auto-tuned variable structure control of cleanrooms
K.K. Tan, Q.-G. Wang, T.H. Lee and C.H. Gan
291 Hybrid modeling for robust nonlinear multivariable control
C.C. Klimasauskas
299 Level control in feedwater heater systems using nonlinear strategies
C. Thanomsat, C.W. Taft and A.M. Annaswamy
313 Sliding mode control of I/O linearizable systems with uncertainty
M. Krothapally, J.C. Cockburn and S. Palanki
323 A method to incorporate controller output constraints into controller design
Q.-G. Wang and Y. Zhang

329 The problem of too much power in detecting biases for a real chemical process
V.C.P. Chen, M. Melendez and D.K. Rollins
337 Safety instrumented functions and safety integrity levels (SIL)
P. Stavrianidis and K. Bhimavarapu
353 Safety system logic solver availability, 1oo2D and TMR
S.R. Wilton
359 Author index of Volume 37
361 Cumulative contents of Volume 37